Discussion Paper Series

Women's Bureau
Series A: Equality in the Workplace
No. 1. Gender Wage Differentials in Canada: A Review of Previous Research and Theoretical Framework

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No. 1. Gender Wage Differentials in Canada: A Review of Previous Research and Theoretical Framework

Prepared for the
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INTRODUCTION

A considerable amount of data and a substantial body of theory address the problem of gender wage differentials. The ratio of female to male wages has remained remarkably stable for at least the past 20 years. This stability stands in apparent contradiction to the dramatic rise in public and governmental consciousness of the status of women. Although important gaps in the understanding of wage patterns remain, it is certain that a large part of the wage gap does not reflect differences in the natural capabilities of women and men workers. Instead, the wage gap reflects gender differences in the distributions of occupations and employers and "pure" discrimination, that is, differences which cannot be attributed either to individual or employer characteristics. It is now appropriate to attempt a new assessment of the empirical evidence and theory bearing on wage differentials.

The first part of this paper reviews the existing empirical research focussing, as far as possible, on Canadian studies. Where no Canadian material exists, the review draws on what is undoubtedly the strongest body of national literature, that on wages in the U.S. The review begins with a discussion of the effects of educational attainment and experience on income. Despite the fact that education and experience have strong effects on income, they do very little to explain the disadvantages suffered by women. The next two sections examine the distribution of women workers among occupations and industries and consider the effects the marked segregation of women has on their wages. The two

brief sections which follow discuss part-time work and the influence of trade union membership.

With this empirical evidence to establish the object of the various theoretical approaches, the second part of this paper proceeds to examine two neo-classical approaches to gender inequality. The eminent economist Gary Becker played the key role in both these formulations. A third section examines the work of the status attainment school which develops in a different discipline, sociology, and deals with income by extending models whose initial focus is on occupational mobility and attainment. The shortcomings of all this work reflect the inability of education and experience to account for the position of women. The next section examines neo-classical attempts to address this important deficiency with conventional approaches. The final theoretical section provides a detailed examination of the approach that has, in the past decade, become the most important contender to neo-classical approaches. Segmentation theory, broadly construed, offers a theoretical approach which focusses on the very great concentration of women workers in particular occupations and industries, rather than on education and experience, whose distributions are not markedly related to gender.

I. The Characteristics and Wages of Women and Men Workers

The large wage disparity between women and men reflects differences in their distributions among occupations and industries and in the skills and experience they bring to their jobs. In an effort to determine what is responsible for creating wage disparities, this section examines the effects of some of the most important sources of wage differentiation, including education, experience, occupation, industry, hours and weeks of work, and trade union membership.

The consideration of the attributes of women and men workers addresses three issues. First, what is the extent of differences between women and men? For example, how large is the difference in the distribution of educational attainment? Second, it is necessary to describe the relationship between each attribute and wages for men and women. In the case of education, large effects on wages are found. Third, is the question of whether the combination of these two patterns accounts for any part of the wage differential. Thus, if women are less educated than men and wages are related to education, gender differentials in wages necessarily arise.

a. Education

Abundant research demonstrates the strong impact of education on wages in Canada. The evidence includes analysis of the 1961 Census of Canada by Ostry (1968:ch.4) and Podoluk (1968:ch.4-5), of the 1971

Census by Kuch and Haessel (1979:22-25) and Richmond and Kalbach (1980: ch.11), of the Canadian National Mobility Study by McRoberts (1979) and Boyd and Humphreys (1979), and of the Porter-Blishen survey of Ontario students and their parents and the 1979 Quality of Like Survey by Ornstein (1981a, b). No other single variable has a larger influence on wages; education alone explains about ten percent of the variation in annual income and in current wage rates.

The mean levels of education of women and men are very similar, but the variance is somewhat larger for men, who are more likely to have very little schooling or to have graduated from university. Table 1 gives the distributions for 1971. Data from the 1971 Census and 1977 Labour Force Survey, also in Table 1, on wage differentials within categories of education reveal large proportional and absolute differences at every level of education. Since education and wages are strongly and positively related, the absolute size of the wage gap grows rapidly with increasing education. The similarity of the distributions of education for men and women and the rather weak relation between the magnitude of the wage ratio and the level of education strongly suggest that removing the attainment differences would do little to affect gender wage differentials.

As the status attainment theorists stress, educational attainment fits into the larger structure of stratification: education levels reflect earlier influences of family background; in turn, the effect of education on wages is mediated by the level of entry into the labour

TABLE 1 PERCENTAGE DISTRIBUTION OF WORKERS BY EDUCATION AND GENDER AND EMPLOYMENT INCOME BY EDUCATION AND GENDER

Education	1970 Percentage + distribution of education		1970 Employment Income +			1977 Employment Income*		
			Mean			Mean		
	Women	Men	Women	Men	Ratio	Women	Men	Ratio
Less than grade 5	3.0	4.6	2588	4577	.565)	4298	10302	.417
Grades 5-8	17.2	27.3	2596	5671	.458)			
Grades 9-10	21.6	22.8	2734	6124	.446)	5766	12085	.477
Grade 11	15.4	10.9	3095	6266	.494)			
Grade 12 & 13	29.4	19.2	3395	6822	.542	6212	11906	.522
Some University	9.5	7.5	3752	6558	.572	7776	15142	.514
University degree	5.0	7.6	5852	12176	.481	11363	20337	.559
Total	100.1	99.9	3199	6754	.474	6085	12698	.480

+ Source: Jean François David and André Lux, "Employment Income in Canada," 1971 Census of Canada, Vol. V, pt. 2, Bulletin 5.2-9: pp. 56, 58.

* Source: Labour Canada, Women in the Labour Force, 1977, pt. 2, p. 47.

force, later career experiences, and individuals' present jobs. Family background as measured in this research tradition includes both parents' education and father's occupation but, generally, not mother's occupation (see Hauser, Tsai, and Sewell (1981) for references to recent American work in this tradition). Boyd and Humphreys (1979:32,37) and Ornstein (1981b:41) arrive at quite similar results with respect to the role of education in this larger process. Although education is affected by family background, its effect on wages is unaltered when family background is held constant. To put it another way, the influence of family background is held constant. To put it another way, the influence of family background on wages is entirely the result of its impact on education. The effect of education on wages is partly transmitted through the first and later jobs. Still, education continues to have a strong direct effect on wages when experience and occupation are held constant; approximately 40 percent of the total impact of education on wages is transmitted through these later variables.

It should be noted that this discussion and most contemporary empirical and theoretical research treat education as a single, homogeneous attribute undifferentiated into identifiable attributes. Amounts of education, not differences in its quality, are the subject of analysis. There is appreciable variation in both the quality of education (for example differences among high schools and post-secondary institutions) and in the relevance of different types of education to work roles. Given the lack of a marked relationship between attendance at particular schools and gender, the first consideration is not likely

relevant to explaining wage differentials. The second consideration is more important: an engineering degree obviously has a greater payoff than an arts degree partly, but not entirely because of the vocational character of engineering schools. If, however, education is considered in terms other than the effort required for and duration of the training, differences that are now visible in the wage structure of occupations will be displaced to their true origins in the educational system.

b. Experience

The relationship between wages and age is well known: earnings are lowest for young workers, rise steeply to a peak at about age fifty, and then decline gradually at first and steeply after age sixty-five or so. As the data in Table 2 from 1971 and 1977 indicate, the pattern of gender differentials follows a similar course. The ratio of women's to men's wages is above .8 for 15 to 19 years olds, falls to about .7 by age 25, reaches a minimum of about .45 around age 40, and begins to rise again to values of about .5 at age 50 and .6 at 65. These differences suggest that, in addition to inequalities in starting points, women's relative position declines further because of important gender differentials in intragenerational mobility processes. Both absolute and proportional gender differences rise to a peak in the years of highest earnings.

TABLE 2 EMPLOYMENT INCOME BY AGE

	1970 Employment Income +			1977 Employment Income *		
	Mean			Mean		
Age	Women	Men	Ratio	Women	Men	Ratio
15-19	1115	1290	.864	2895	3524	.822
20-24	3013	4030	.748	6254	8849	.707
25-34	3675	7150	.514	7456	14438	.516
35-44	3546	8486	.418	7342	17597	.417
45-64	3674	8222	.447	7166	16705	.429
55-65	3690	7019	.526	5883	14140	.381
65 or more	2955	4474	.660			
65-69				4590	8199	.560
70 or more				4275	5479	.780
Total	3199	6574	.487	6085	12698	.480

+ Source: Jean François David and André Lux, "Employment Income in Canada," 1971 Census of Canada, Vol. V, pt. 2, Bulletin 5.2-9: p. 32.

* Source: Labour Canada, Women in the Labour Force, 1977, pt. 2, p. 47.

Experience, of course, is not identical to chronological age, despite the fact that most studies employ (almost always with apologies) estimates of experience based on age. Usually experience is estimated by substracting from age the number of years of education plus six. This procedure produces a substantially poorer estimate for women than men. Because of interruptions in women's labour force participation, the experience "proxy" is upwardly biased and also less reliable for women than for men. There is little direct evidence on this point, since few of the existing surveys provide direct measures of experience. One important exception is the Canadian National Mobility Survey, from which Boyd and Humphreys (1979:32) report mean values of work experience of 20.6 years for men and 15.4 years for women (for workers aged 25-64, working 35 or more hours per week, and 40 or more weeks in the year). They also find that the income rewards for experience are much larger for men than women. Using the 1979 Quality of Life survey, Ornstein (1981b:41) obtains a similar result when the "proxy" for experience based on age is employed; but the gender difference in the effects of the experience factor virtually disappears when measures of the number of years spent with children in three specified age ranges are included in the equation. Although differences between the samples and methodologies undermine the validity of a comparison between the two studies, Ornstein's results suggest that what appear to be direct measures of experience, while superior to this proxy might themselves mask other differences in the character of work experience.

These findings raise questions about the impact on wages of two related variables affecting workers' ability to translate experience into higher wages: the impact of interruptions in labour force participation and the character of internal labour markets within employer organizations. Little data on either issue is available for Canada. It is worth considering, therefore, the results of such an analysis, based on the Panel Study of Income Dynamics which is being conducted in the United States, reported by Corcoran (1979). She finds (p.223), for white women, that 35.6 percent have no work interruption; 28.9 percent delay their entry into the labour force then work continuously; 15.3 percent start to work, interrupt their participation once, then return to work; 8.4 percent delay their entry, work for a time, then drop out again before reentering the labour force; and 11.8 percent have more complex patterns including at least five periods of work and non-work. The impact of labour force interruptions is summarized as follows:

> Periods of labour force withdrawal did lower expected wages for white women who delayed beginning work after school completion; expected wages dropped about 0.9 percent for each year of non-work which followed school completion. But white women's wages were unaffected by interruptions after starting one's work carrer -- even by interruptions which involved no training or schooling. And white women who interrupted work frequently (two or more times) earned no less than otherwise similar white women. (p.227)

Canadian research on patterns of work experience is very limited. Studies of labour force participation, including Spencer and Featherstone (1970) and Ostry (1968:Appendix), touch on the problem, but limitations on the available data prevent them from examining work histories.

These results point to serious difficulties with the theoretical treatment and empirical data on work experience. It is commonly assumed that experience measures an underlying growth in skills. But occupations differ dramatically in the opportunities they provide for workers to improve their skills. Even within the same occupation, differences among industries, and among firms within industries, play important roles in determining whether additional experience makes a real contribution to productivity. The relation between experience and wages reflects both the technical structure and the social organization of the workplace, as it emerges from employers' efforts to maintain particular reward and carrer structures and workers' attempts to modify them. Furthermore, wages also increase with experience because of seniority and not because of real improvements in skill.

Wage differences associated with the single variable commonly used to measure experience thus reflect a sum of separate effects. An important goal of further research must be the disaggregation of that sum. Data on a number of separate aspects of experience will be required, including, at least: total full-time work and part-time work experience; the timing and duration of withdrawals from the labour

force; carrer advancement and seniority with current employers; and measures of the technical and social organization of the workplace.

c. Occupations

The Canadian economy exhibits both large wage differentials among occupations and high levels of occupational segregation by gender. The question is how the two patterns combine to affect wage differentials. The categorization of occupations has an important bearing on the results of any such analysis. This discussion begins with the most detailed data, then considers the merits of broader classifications. Effective analysis of the entire range of detailed occupations requires Census data. With about 500 occupational categories, an enormous sample is required to obtain wage estimates for men and women within categories, some of which may contain less than .01 percent of the total population. Armstrong and Armstrong (1975) have made such an examination of the 1941 through 1971 Censuses. Over the 1941-61 period, more than half of all women workers are found in the ten occupations with the largest numbers of women. The Armstrongs conclude:

> ...the enormous growth in female labour force participation between 1941 and 1961 meant very little as far as occupational segregation was concerned. Both the concentration of women in a few jobs and sex-typing of these jobs were maintained throughout the 20-year period. (p.373)

In the 1971 Census, radical changes to the occupational categorization prevent precise comparison with previous years. Still, the Armstrongs (p.372) find that only 26 detailed categories contain 46.4 percent of all female workers.

The Armstrongs (p.379) also provide comparisons of women's and men's wages in the 22 occupations containing one percent or more of the female labour force and find very large wage differentials within occupations: on average, women earn 62.3 percent of men's wages (compared to an average of 48.7 percent for all occupations. The subsidiary question, as to what effect occupational segregation has on women's wages, is answered by Fox and Fox (1981) who find a strong negative relation between wages in an occupation (either female or male averages) and the percentage of women in the occupation, with the variables of education and industrial sector (in 14 broad categories) held constant. Using mean wages of men and women in 260 detailed occupations, and controlling for the mean educational attainment of men and women in those occupations, Ferber and Lowry (1976) found that larger proportions of women have lower wages. (p.215).

More aggregated data are available in Women in the Labour Force, published on an annual basis. They are drawn from a sample too small to provide distributions among, or mean wages in, detailed categories. Tables 3 and 4 give the mean wages in broad categories, based on the 1971 Census and 1977 labour force surveys, respectively. The Census wage differentials are larger since they include all workers, not only

TABLE 3 EMPLOYMENT INCOME IN 1970 BY OCCUPATION IN 1971, FOR CANADIANS AGED 15 OR MORE WHO WORKED IN 1970

Occupational Group	Percentage Distribution		1970 Employment Income Mean		
	Women	Men	Women	Men	Ratio
Managerial, administrative, and related	1.9	5.4	6135	13406	.458
Teaching and related	7.6	2.4	5400	9014	.599
Occupations in medicine and health	8.6	1.5	4135	14175	.292
Technological, social, religious, artistic, etc.	2.6	6.0	4100	8557	.479
Clerical and related	32.7	7.7	3390	5823	.582
Sales	8.8	9.9	2285	7120	.321
Clerical	16.3	9.4	1954	5275	.370
Farming, horticultural and animal husbandry	1.4	6.7	1541	3321	.464
Other Primary	0.1	2.9	2151	2885	.746
Processing occupations	2.3	4.9	2562	5956	.430
Machining, product fabricating, assembling and repair	5.9	12.4	2863	6496	.441
Construction trades	0.2	10.1	3708	6175	.600
Transportation equipment operators	0.3	5.8	2722	6190	.440
Other	2.9	7.4	2664	5447	.489
Not stated	8.4	7.6	2794	5418	.516
Total	100.0	100.1	3199	6574	.487

Source: Jean François David and André Lux, "Employment Income in Canada," 1971 Census of Canada, Vol. V, pt. 2, Bulletin 5.2-9: p. 75.

TABLE 4 EMPLOYMENT INCOME IN 1977 BY OCCUPATION FOR FULL-YEAR WORKERS

Occupational Group	Mean		
	Women	Men	Ratio
Managerial	12117	20841	.581
Professional	11585	19067	.608
Clerical	8676	13610	.637
Sales	6956	14816	.469
Service	6057	12544	.483
Farming	4230	9805	.431
Processing and Machining	8829	14892	.593
Product fabrication	7923	14515	.542
Transportation	8207	14139	.580

Source: Labour Canada, Women in the Labour Force, 1977, pt. 2, p. 65.

full-year workers. No strong relationship can be found either in absolute terms or relative to the proportion of men, between the proportion of women in an occupational category, and the ratio of women's to men's wages. Of course, these comparisons are made without adjustments for the characteristics of workers. Still, they imply that a decline in the levels of occupational segregation would equalize incomes only if men and women are redistributed among occupational categories, not among broader categories. Robb's analysis (1978:353) of the 1971 Census Public Use Sample Tapes and Ostry's analysis (1968:43) of the 1961 Census confirm this analysis of broad occupational categories, but Holmes (1976:112) finds that about one-third of gender differentials within educational categories is explained by broad occupational distributions.

Finally, consider the results of replacing measurements of occupational categories with a scale of socio-economic status or prestige, as in studies from the tradition of status attainment research. In the Canadian research, it is common to employ the scale developed by Blishen (the version of this scale based on 1971 Census data is given in Blishen and McRoberts, 1976). Ornstein (1981b:37) finds a correlation of .329 (explaining about 11 percent of the variation in income) between the Blishen score and employment income. With "human capital" variables and their interactions with gender held constant, the effect of occupation is reduced by about one third; with sector and social class held constant, the effect is reduced to about one-half its "raw" value. Boyd and Humphreys (1979:32,37) find the effect of the socio-economic score of occupations is greater for men than women. Thus women are less

able to convert higher occupational ratings into income; by the same token, women's wages are not lowered much by jobs with low scores. This actually reflects the lower variance in women's wages, since the standardized regression coefficients for men and women are virtually identical.

To what extent do socio-economic scores for occupations capture the effects of detailed or more aggregated occupational categories? On the basis of the existing evidence, it is impossible to say, but an answer could be derived from a rather simple analysis of the Census aggregates.

d. Industry

If occupational divisions reflect the division of labour among workers, industrial divisions reflect the division of labour among employers. The two are strongly but not perfectly related. Classical economics stresses the role of labour markets for specific skills, rather than markets based on the product or service those skills are employed to produce. So, for example, the 1971 Canadian Census fails to report individual earnings by detailed industrial sector, the only detailed breakdown being by occupation. But, as segmented labour market theorists (whose contribution is reviewed in detail in the second part of this paper) have argued, industry-based labour markets could also exist, particularly when a single industry dominates employment in an occupation. The characteristics of industries would then enter into the

determination of wage differentials among occupations and, necessarily, between women and men (because of the high levels of occupational segregation, noted above). Ideally, data on wages cross-classified by occupation and industry would allow for the separation of their effects on the wage structure. Such a special tabulation could be made from the existing 1971 Census data.

More aggregated tabulations do exist. Table 5 gives the percentage distribution of women and men workers among nine major industrial categories. Table 6 (unfortunately for a different categorization), provides evidence or large wage differences among industries which persist when education, experience, gender, and a number of other variables are held constant. Industrial differences, on the basis of this evidence, are certainly important.

As for occupation, a number of attempts have been made to create categorizations that are more theoretically meaningful and less empirically cumbersome by collapsing the large numbers of detailed industrial categories. Under a number of different labels, various sorts of "core-periphery" divisions have been developed (see, for example, Beck, Horan and Tolbert, 1978; Hodson, 1978; Bibb and Form, 1977). The core includes industries with little competition, and hence, employers more concerned with assuring production than with limiting wage gains; the periphery includes competitive industries where employers survive only by virtue of poorly paid labour; sometimes, a third "government" sector is added. By virtue of their economic situations, core and

TABLE 5 PERCENTAGE DISTRIBUTION OF WORKERS AND UNION MEMBERSHIP, BY INDUSTRY AND GENDER

Industry	Percentage Distribution		Union members as a percent of paid workers	
	Women	Men	Women	Men
Agriculture	1.2	1.9	1.2	2.4
Mining	0.4	2.5	10.6	45.6
Manufacturing	14.1	26.0	35.2	50.4
Construction	1.2	9.1	7.5	61.3
Transportation	4.7	11.7	49.1	58.0
Trade	18.5	16.7	7.5	9.6
Finance	9.1	4.0	1.7	1.3
Community	43.7	18.1	30.2	35.6
Public Administration	6.9	8.8	66.9	65.3
Total	99.8	99.8	26.8	41.1

Source: Labour Canada, Women in the Labour Force, 1977, pt. 3, p. 11.

TABLE 6 YEARLY EMPLOYMENT INCOME (IN $1000) BY INDUSTRY FOR WORKERS EMPLOYED 20 OR MORE HOURS PER WEEK, UNADJUSTED AND ADJUSTED FOR THE EFFECTS OF EDUCATION, EXPERIENCE, GENDER, SOCIAL CLASS AND LABOUR MARKET

Industry	Mean	Adjusted Mean
Low concentration manufacturing	17.15	18.25
Medium concentration manufacturing	15.98	15.98
High concentration manufacturing	16.27	14.36
Transportation, utilities	16.09	15.91
Business services	15.91	13.61
Finance	16.24	16.59
Construction	16.86	17.03
Trade	11.86	13.02
Personal services	8.96	13.01
Farming, Fishing	18.43	19.12
State	16.68	15.87

Source: Ornstein, 1981b: 38, 43.

peripheral firms employ different types of labour and treat them differently. Core firms offer higher pay, more job security, and employ large proportions of highly skilled labour. It is obviously possible to undertake descriptive studies of industrial wage rates, employing some descriptive classification of the economy. However, before a study of the role of the core and periphery sectors in wage differentials makes sense, it must be shown that the economy is actually divided in the way suggested by the segmented labour market theorists.

No Canadian study of industry characteristics provides the necessary evidence. A number of recent American studies, however, pose a serious challenge to core-periphery theories. Comparisons of the characteristics of industries by Wallace and Kalleberg (1979), Oster (1979), Friedman and Friedman (1979), Wachter (1974) and Baron and Bielby (1980) provide disturbing evidence on this score. All find weak correlations among the various industrial characteristics, including industrial concentration, firm size, wages, and skill composition of the labour force, that are combined by exponents of core-periphery models, such as Doeringer and Piore (1971) and O'Connor (1973). As the recency of the publications suggests, this is a current and unresolved issue.

Ornstein's (1981b:9ff) results are relevant to this discussion. He is unable to divide industries into core and peripheral sectors without masking farily large industrial wage differences. The difficulty is that some competitive sectors, such as construction, exhibit relatively high wages; furthermore there is virtually no difference in

the average rates of pay of manufacturing industries with low, medium and high concentration values. Although Ornstein (1981b) finds moderately large raw differences among industries, an eleven category division explains about 6 percent of the variance in wages; the differences do not conform very well to what core-periphery theorists would argue. Kuch and Haessel (1979:165) also find rather small effects on male wages, but provide no corresponding results for women!

Boyd and Humphreys compare yearly incomes of workers in what they define as the core and periphery of the Canadian economy. They find (p. 38) that "the differential location of men and women into the core-periphery sectors does not account for income differences". Regression analysis shows that for men, the income attainment processes for core and periphery do not differ (in what they see as a puzzling contradiction to the American studies). For women, there are differences between the two sectors in the attainment process (i.e. in the rewards of education and experience), but their total impact is not very large (pp. 40-41). Gender differences are smallest in the governmental sector and about equally large in the core and peripheral sectors. Ornstein (1981b:46) finds the net effect of interactions between gender and industry is not large, but women are apparently relatively worse off in three particular industrial groups: low concentration manufacturing, construction, and personal service -- even with education, experience, unionization, and firm size held constant. Robb (1978:353) finds that industry has little impact on net gender wage differentials.

This discussion of the Canadian results must end on an inconclusive note. No analysis effectively separates industrial from detailed occupational differences. For example, the suggestion above that women suffer larger wage differentials in construction might actually reflect male monopolization of skilled and/or unionized occupations, leaving poorly paid clerical jobs in the hands of women. An interesting comparison among industries in the U.S. made by Fuchs (1971) for the year 1959, finds that the largest part of industrial differentials in the relative earnings of men and women is explained by worker characteristics. Another problem is that industry is correlated with firm size and unionization, although this may not be a serious problem as suggested by Ornstein's (1981b) finding that these variables have rather small effects, which have little impact on industry differentials. It is notable that Stolzenberg's (1975) analysis of American data finds large industrial differences in wages when comparisons were made <u>within</u> detailed occupational categories.

There is a pressing need to develop a typology of industries which effectively measures the aspects of their structure that influence the labour market. The present detailed categories are far too numerous (as well as requiring very large samples for effective analysis); the ten to fifteen major categories commonly employed are based on similarities in industrial function, not on key labour market factors; and present attempts to dichotomize the economy into core and periphery sectors are open to serious question. Some progress on this matter could be

made on the basis of special tabulations of the Census and by using data from the wide range of governmental data on industrial categories.

e. Hours and Weeks of Work

Women are more likely to hold part-time jobs than men and are also more likely to spend some part of the year without a job. Of course, this reflects family demands on women and the greater likelihood of their interrupting their labour force participation. These patterns are well known and we address ourselves here to their effect on wage differentials. The above section on experience covers the impact of interruptions and so we simply examine wage ratios within these categories from the 1971 Census in Table 7. The Census data reveal a rather complicated pattern. Wage differentials tend to be larger for full-time workers, which likely reflects the fact that the careers of individuals in full-time work are influenced by internal labour markets which discriminate in favour of men.

So, paradoxically, the unsteadiness of part-time work, and its tendency to keep individuals out of career lines where the acquisition of increased skills leads to promotion, places men and women in part-time jobs on a more equal footing than their full-time counterparts. This also accounts for the tendency for wage differentials to increase as the number of weeks worked in the past year increases. On the basis of these data, it is possible to predict the impact of equalizing the duration and intensity of work of gender wage differentials. It would

TABLE 7 INCOME BY WEEKS AND HOURS WORKED IN 1970

Weeks Worked in 1970	Hours Worked in 1970	Percentage Distribution		Mean Employment Income in 1970		Ratio of Incomes in 1970
		Women	Men	Women	Men	
1-3	less than 30	8.6	3.3	565	967	.584
	30 or more	7.2	4.6	845	1591	.531
14-26	less than 30	5.8	2.6	1184	1925	.615
	30 or more	8.0	5.8	1889	2973	.635
27-39	less than 30	4.3	2.1	1672	2992	.559
	30 or more	7.3	7.3	3061	4778	.641
40-48	less than 30	3.8	1.3	2568	3810	.674
	30 or more	9.9	12.2	4026	7162	.562
49-52	less than 30	5.8	2.0	2458	3571	.688
	30 or more	39.8	58.8	4026	8230	.489
Total	less than 30	28.3	11.2	1518	2341	.648
	30 or more	71.7	88.8	3864	7111	.543
Total	Total	100.0	100.0	2770	6577	.422

Source: Jean François David and André Lux, "Employment Income in Canada," 1971 Census of Canada, Vol. V, pt. 2, Bulletin 5.2-9, p. 68.

decrease the differential, by about ten percent according to Ostry (1968:43). A full analysis of this issue requires data on the reasons why workers choose part-time work. To the extent part-time workers would take full-time work if it was offered, the resulting wage differentials reflect women's weaker position in the labour market; to the extent they would not take full-time jobs offered, women's part-time work reflects other aspects of women's situation, particularly their roles in child care, the availability and cost of day-care, and decision-making processes in household economic units.

f. Trade Union Membership

The annual Women in the Labour Force: Facts and Figures provides data by industry on the levels of membership in trade unions. These figures for 1977, reproduced in Table 5 above, show that women are only 65 percent as likely as men to be union members. In part, the difference is due to the industrial distributions of women and men workers. Differences in the percentages of members are generally smaller within industrial categories (except for agriculture, mining and construction where the proportion of women workers is very low and women are likely engaged in different occupations than men). In community, business and personal service and public administration industries, the levels of unionization are similar.

Differences in unionization do not have much impact on wage differentials. The 1979 Quality of Life survey includes measures of

union membership. Ornstein (1981b) finds a gross difference in annual wages of $990, which is reduced to $740 with other variables held constant. At this rate, the difference in membership rates of 15 percent produces a wage differential of only about one hundred 1979 dollars, or about 1.5 percent of the total gender difference. Studies based, not on individual sample surveys, but on wage statistics for industries, also provide relevant data. Ostry and Zaidi (1979:368) conclude that:

> A search for an expected positive correlation between the degree of unionization and increase in average hourly earnings in industries in Canada during the sixties and seventies did not yield much fruit.

Evidence on the net impact of trade unions in Canada is quite limited, and it does not seem likely that large net effects due to unionization will be discovered. It is, however, worth examining the possibility that the impact of unionization on wages is a function of other characteristics of the employer, perhaps industry or size.

g. Unresolved Issues

The empirical research on wage differentials tells us a great deal more about the relation between individual characteristics and wages than about the impact of differences among employers. Whether or not the assumption is explicit, most of the data and analysis reflect an individualistic perspective in which workers, equipped with a certain

set of skills, credentials, and demographic characteristics, enter a homogeneous labour market which rewards them on the basis of these traits. This is not to say that no other perspectives or data exist; for the past decade at least, attention has shifted towards examining the impact of employer characteristics. It is also true that some of the individual variables, notably education and age (or experience), are known to produce large wage differences. Indeed, existing evidence shows that individual characteristics have larger effects than any variables describing employers.

Still, very little is known about the impact of employing organizations and it is premature to draw conclusions about their effects. So far, work has concentrated on sectoral differences -- with the sectors often defined by a crude dichotomy. Some research considers the impact of firm size and unionization. However, almost nothing is known about the effect of the authority relations in the work place (including the effects of unions) or of the organizational structure of employers. It is essential that these factors be better understood. Social policy has too frequently been directed at improving the skills of workers without regard for the fact that the training processes have no direct effect on the demand for labour or on the wage structure (except perhaps for the personnel involved in the training).

Some important gaps also remain in our understanding of the effect of individual characteristics on wages. Two are striking. First, despite (or perhaps because of) the enormous attention paid to

age profiles of earnings, rather little is known about the effect of work experience, especially when the experience is interrupted.

The patterns of interruptions have never been measured for a large sample of Canadian women. In this respect, we are far behind the Americans who have data from two very large scale panel studies, the Panel Study of Income Dynamics and the National Longitudinal Survey. We need to know the patterns of work experience and to construct models showing the relations among individual characteristics, types of work experience, and decisions to withdraw from and reenter the labour force. Although Ostry (1968:Appendix) and Spencer and Featherstone (1970) provide good (although now rather dated) cross-sectional analyses of the determinants of labour force participation, important questions remain which can only be answered by gathering longitudinal data. A panel study would provide the best data, but at great cost and subject to considerable delay, for it would certainly be five years before enough changes in labour force participation would have taken place to provide the material for analysis.

A second shortcoming concerns the role of individual abilities on wage attainment. A great deal is known about the effect of educational attainment -- but we do not know what it is about attainment that produces earnings. Likely some mixture of the effects of credentials, genuine skills, and learned styles of interraction are responsible. Separate measurements of the number of years of education and of

graduation certificates and degrees obtained and the subjects studied would provide for such an analysis.

A final, neglected factor in the wage determination process, which cannot be uniquely assigned to either individuals or employers, is social class. As defined in terms of control over the work process and over investment decisions and ownership of capital resources, social class describes individuals' positions in authority structures and ability to benefit from employing others. Wright (1979; see also Wright and Perrone, 1977) finds large wage differences among American social classes. For Canada, Ornstein (1981b:45) finds that social class alone explains 22.1 percent of the variation in wages, 8.2 percent when human capital, industry and other variables are held constant. Wright suggests that class might affect gender differences in the returns to education, but Ornstein finds only small differences. This issue clearly calls for further exploration.

II. Theories of Wage Differentials

The "rediscovery" of racial discrimination in the United States in the nineteen sixties directed academic effort to the theoretical and empirical study of discrimination. An apparent paradox was the coexistence of discrimination with high rates of growth in real incomes. The later "rediscovery" of discrimination against women built on and accelerated research on the subject. The strength of this body of research literature lies in the number of distinct theoretical perspectives which have emerged and in the body of empirical research brought to bear on the theoretical conflicts. Although a good deal is now known about the patterns of gender differentials, the empirical research has not led to a resolution of these conflicts. This review provides the basis for theoretical position set out in the section on study design.

a. Becker's Neo-Classical Model

Gary Becker's pioneering The Economics of Discrimination (1957) includes the following summary of his position:

> Individuals are assumed to act as if they have "tastes for discrimination", and these tastes are the most important immediate cause of actual discrimination. When an employer discriminates against employees, he acts as if he incurs non-pecuniary, psychic costs of production by employing them; when an employee discriminates against fellow employ-

> ees or employers, he acts as if he incurs non-pecuniary, psychic costs of employment by working with them; when a consumer discriminates against products, he acts as if he incurs non-pecuniary, psychic costs of consumption by consuming them. (p. 122)

Discrimination thus involves substituting prejudice for good economic judgement. Employers, employees, and customers incur costs when they discriminate; so the mechanism of discrimination is effectively a restrictive trade practice. Since non-discriminating firms, in this model, gain a competitive advantage, competition is the cure for discrimination. Competitive industries would therefore exhibit less discrimination than monopolistic industries. Furthermore, as the ideological justifications of racism and sexism come under attack, the long-run tendency should be for discrimination to diminish. Neither prediction is confirmed by empirical evidence. Its chief vulnerability lies in its assumption that discrimination reflects a deviation from competitive behaviour. Within the parameter of neo-classical economics, Robinson (1934), Bronfenbrenner (1956), Krueger (1963), Thurow (1969), and Bergmann (1971, 1974), among others, challenged this assumption. We will review this work below, but first detour to outline the second of Becker's contributions.

b. Human Capital

Wage discrimination takes place in the context of a labour market with large occupational wage differentials among workers of the

same race and gender. An understanding of the occupational wage structure is thus a precondition for the successful examination of discrimination. Gary Becker's Human Capital (1964) represents a comprehensive statement of the neo-classical approach to the problem. Wages are seen to represent returns to capital embodied individuals in the form of occupational skills. Becker (1964:ch.II) argues that this capital is built up through formal education and on-the-job training (which itself varies in specificity, the most specific training not being applicable outside the firm where it is acquired). The absence of employer characteristics from this model can only be sustained under the assumption that all workers are in a single, competitive labour market. In general, education is measured by years of schooling, and on-the-job training by years of experience. It is not surprising that Jacob Mincer's (1974) important analysis of income in the U.S. is titled Schooling, Experience, and Earnings.

At a certain level, the human capital approach has had a great success. It makes sense out of the strong relations between education and earnings, and between age and earnings, and provides relatively good predictions of income (about one third of the total variance is explained) using just two variables. Kuch and Haessel's (1979:38ff) analysis of Canadian data is based on human capital theory. It is notable, and no accident, that much of Mincer's empirical analysis is based on white non-farm men. In fact, the empirical evidence of racial and wage differentials poses a serious challenge to human capital theory. Ornstein

(1981b:41) finds that statistical controls for education and experience do virtually nothing to reduce the wage disparities between men and women. Indeed, gender and its interactions explain about as much variance in wages as the human capital measures! Analysis of earnings also reveals that education and experience have important effects. But differences between men and women cannot be explained in this framework. What is to account for the fact that men are paid far more than women with equal capabilities? The evidence of gender wage differentials does more than add another variable to human capital models. If human capital had the attributes of conventional capital, we should expect all human capitalists to operate in the same market as there is no reason why one class of capitalists should receive much lower returns than another class. But the data show that the two classes of human capital are in different markets, in apparent violation of the definition of capital. This brings into question the concept of human capital. At the least some rationale for the segregation of capital into restricted markets for women and men is required.

Human capital theory suffers from two critical deficiencies. First, it fails to provide a rationale for individual differences in the amounts of human capital workers choose to acquire. Even when ability (at least as measured by standardized tests) is held constant, social background, race, and gender have strong influences on amount of human capital. Second, it is an economic theory in which the economy and other institutions make no appearance. Blaug (1976:830) argues "As originally formulated by Schultz, Becker, and Mincer, the human capital

research programme was characterized by "methodological individualism" that is, the view that all social phenomena should be traced back to their foundation in individual behaviour". Employers provide the rewards to human capital, and their ability to provide rewards is a function of their profitability and of the ability of their employees to organize to demand higher wages. Human capital theory treats individuals as petty capitalists investing in tiny enterprises -- themselves. It is not surprising that it should fail to provide adequate explanations of wage determination in an economy dominated by giant enterprises, pervasive inequality of opportunity, and ideology and institutions which perpetuate existing inequities. Bowles and Gintis (1976) provide a more systematic critique along these lines.

c. Status Attainment Theory

Status attainment research develops within the discipline of sociology, not economics. Early research, for example by Blau and Duncan (1967), is largely restricted to examining the relationships among family background, education, and occupation. Occupation levels are measured by socio-economic scores (derived from the population distributions of educational attainment and income within occupational categories) or prestige scores (derived from surveys measuring the social standing of occupations). It is then a simple matter to add income to the recursive models. In common with human capital analyses, education exerts a strong influence on wages, as does the respondent's

occupation; the influence of parental background on income is negligible, its direct effect being largely confined to education.

Status attainment models were largely developed on the basis of data for white men, but starting in the early 1970's considerable effort was devoted in the U.S. to integrating data on women into the models (see Treiman and Terrell, 1974; McClendon, 1976; and Sewell, Hauser, and Wolf, 1980). All show that the occupational attainment processes of men and women are similar, but the large part of income differences remains unexplained.

Unlike human capital theory, the status attainment model contains no explicit reasoning as to why inequality is perpetuated from one variable to the next in the model; the strengths of the relationships are estimated in the absense of theory about the actual process. Implicitly, a commonsense explanation of the processes is assumed. Empirically, the capacities of human capital and status attainment theories to explain wage differentials are similar and extremely limited. In fact, they share an individualistic view of the wage determination process. In the absense of of measures of the character of the labour market and other aspects of the economic environment, both theories implicitly assume a homogeneous market that translates individual characteristics into wages, without respect to gender or race. But empirical evidence shows this cannot be correct. The incorporation of a single measure of the social standing of occupations takes the place of many other aspects of occupation, such as the proportion of women workers, authority rela-

tions and opportunities for promotion within employing organizations. Thus, it is not surprising that neither model does much to explain wage differentials.

There is convincing evidence of the theoretical shortcomings and empirical inadequacy of human capital and status attainment theories. Nevertheless, putting aside the claims of their strongest proponents, elements of the two theories relating to education and experience are a necessary part of a larger theory of wage determination. The traditions of wage differentiation on the basis of skill and education predate the modern industrial economy. Even removing the effects of seniority, credentials, internal labour markets, and employer characteristics, the effects of education and experience on wages persist. Existing data provide strong evidence to support this. Aside from the effect of occupation, which naturally serves to transmit a part of the effect of education into wages, the addition to the model of variables measuring all these other factors actually does very little to lower the net effects of education and experience. The empirical problem is then to separate their underlying effects. As Cain concludes in his discussion of theories exphasizing the role of education as a screening device or credential-defining mechanism, "they basically <u>redefine</u> the investment component of education as "information" rather than <u>deny</u> an investment component" (1976:1219).

d. Alternative Neo-Classical Models

The most serious shortcoming of Becker's theory of discrimination is that it provides no rationale, except for personal prejudice, to motivate discrimination. Indeed, discriminating employers suffer for indulging their prejudices, since they pay men more than they would have to pay women for doing the same job. A number of theorists have modified Becker's model to remedy this obvious shortcoming while preserving its basic assumptions. Krueger (1963) and Alexis (1973, 1974) consider, respectively, the problem of why employers without prejudices of their own and who have no personal contacts with a minority group might maintain wage differentials in the interests of the majority group as a whole. Still, sexist and racist tastes of employers are taken as given, rather than explained by the model.

Bergmann (1971, 1974) develops a model along these lines to account for wage differentials among equally skilled occupations, thus addressing the important issue of occupational segregation. Demand by discriminatory employers is seen to restrict minority group members to certain "menial" occupations; only when the costs (again in terms of profits lost due to irrational preferences for whites) or restricting a second category of higher paying, "prestigious" occupations to the majority group exceed a certain threshold will minority group members be hired. Occupational segregation produces "crowding" in the "menial" occupations, thereby lowering wages. This argument makes more sense than Becker's original formulation in terms of the simple aversion of

whites (or men) to contact with blacks (or women). But the matter of accounting for tastes remains, as does the assumption that discrimination persists in spite of employers' resulting losses.

Arrow (1974) elaborates Becker's model in an attempt to explain why wage differentials are not erased by competitive pressures. He argues that segregation is maintained by "non-convexities" in firms' indifference surfaces, that is, their utility is greater when all minority or all majority group members work in an occupation. In this case, incremental changes in the composition of workers are punished, not rewarded, due partly to costs of hiring and training. Arrow, and Phelps independently (1972), replace Becker's taste for discrimination with the motivation that employers believe that minority group members are unable to efficiently perform certain jobs. There remains the question of why those beliefs would persist in view of the presence of (or at least the possibility to gather) conflicting evidence. The problem remains of why employers would bear higher costs in the long run to discriminate.

An alternative to the neo-classical reformulations is to jetison their competitive assumptions to formulate models with monopsonistic employers, that is, employers that pay wages lower than workers' marginal products. The first complete formulation of the monopsony model was developed by Robinson (1934) and it was recently elaborated by Bergmann (1971, 1974). In these models, differences in the "supply curves" of men and women account for wage differentials, since the required number

of women workers is prepared to enter the labour force at pay rates below the rates required to elicit the required number of men workers. This difference in the supply curves reflects the better organization of male workers in trade unions and their unwillingness to work at all for the wages offered women. The argument about this bargaining power is helpful in explaining interoccupational differences, but doesn't tell us why earnings within occupations would not equilibrate due to employers hiring only women, until they reach a point where the wages required to attract additional women workers is equal to the male wage. Blau and Jesenius (1976:184) remark:

> This (continued) reliance on employer tastes as the casual factor of occupational segregation does not appear to be sufficient. It is not clear why so many employers would have such tastes against women in certain occupations, nor is it clear why employers' aversion should be so "strong" that they are not compensated for their disutility by prevailing male-female pay differential.

Bronfenbrenner (1956) follows Robinson in elaborating a model based on supply curves to which is added employers' power to establish the minimum requirements for applicants to each occupation, either on the basis of the task involved or in order to limit the types and numbers of potential applicants. Requirements may be raised simply in order to narrow the eligible workers to men or lowered to the point where only minority group members are prepared to take the jobs.

Bronfenbrenner is on the verge of parting company with classical economics, despite his formulation in terms of supply curves. In his view, bureaucratic factors influence, even if they do not entirely displace, strictly economic determination of job requirements and wages. It is only a short step to discarding the classical apparatus altogether and replacing it with a model based largely on the bargaining powers of the contending agents (as Marshall, 1974 does).

Madden (1973) follows Robinson's line of argument, taking the position that women workers' wages are depressed by the lower elasticity of their wage curves; a combination of women having fewer alternative occupations, due to discrimination, restricted demands for their skills, and family constraints might be responsible. It is, of course, an empirical question whether the supply of women's labour is less elastic than men's. The proportions of women who are household heads, or who make essential contributions to the income of household they do not head, has an important influence on the relative elasticities.

Thurow (1969) extends the analysis of racial discrimination to argue that white society (not only white employers and white workers) exploits black society and in the process may improve their economic positions. The majority position is maintained by a network of institutions including school and other state organizations. There are some difficulties in applying this sort of model to discrimination against women. It is difficult, for example, to imagine analogies to racial discrimination in housing and education. Still, Thurow's work is

valuable in locating discrimination in the setting of a wider community and removing it from the sphere of prejudiced irrationality, by pointing to the benefits accruing to the majority group.

Finally, Marshall (1976) puts forward a "bargaining" model to explain racial discrimination which "incorporates features of the neo-classical and other models but specifies the motives of the various actors and the contexts within which they operate on the basis of empirical evidence rather than a priori deductive reasoning" (p.866). His alternative formulation effectively incorporates wage determination into broader community conflicts. Consider this description of the forces at work in racial discrimination:

> The main actors involved in the determination of racial employment patterns are managers, white workers, black workers, unions, and government agencies responsible for the implementation of antidiscrimination and industrial relations policies. The main environmental features influencing racial employment patterns include: economic and labour market conditions, community race relations, the distribution of power in the larger community, industry structure and growth potential, the labour market skills and education of black and white populations relative to the labour requirements of various companies and industries, and the operation of labour market institutions. (p.866)

In fact, Marshall retains little of the neo-classical framework. The weakness of Marshall's bargaining model is that by reducing problems of discrimination to conflicts among unequal parties, the economic rationale behind discrimination once more vanishes.

As these developments indicate, neo-classical theories have come to incorporate institutional factors and to provide alternatives to the assumption of competition in Becker's model. This elaboration of factors outside the economy and of the bargaining process between employers and workers, however, is not accompanied by a corresponding analysis of the class of employers, which remains undifferentiated. It is from this direction, that the most fundamental challenge to neo-classical theory has been mounted. Segmented labour market theories find the source of wage discrimination in the structure of the economy.

e. Segmented Labour Market and Related Theories

After reviewing the rise of human capital theory, with its almost total emphasis on the characteristics of workers, Bluestone (1970) makes the case for redirecting attention to the forces responsible for the creation of jobs:

> A revised labour market model is needed which pays proper attention to both sides of the wage nexus and, what is more accounts for the imperfections in mobility of both labour and capital. The model must posit "segmentation" on both

> sides of the market, for labour is not fully mobile between sectors of the economy and industries vary greatly in terms of their ability to pay high wages. (p.21)

Usually, the economy is devided into two sectors; the "core" includes firms that are technologically advanced, capital intensive, highly profitable, and frequently benefit from monopolized markets; firms in the "periphery" employ little technology, are labour intensive, relatively unprofitable, and operate in competitive markets. Not surprisingly, core firms pay higher wages than periphery firms. So a group of workers largely confined to peripheral firms will have low wages. Not only do core firms have large incomes to meet greater demands for wages, they are also more likely to be unionized.

A variety of labels and definitions have been applied to these sectors (for examples, see Averitt, 1968; Piore, 1970; Galbraith, 1973). Sometimes government is designated a third sector (for example, by O'Connor, 1973 and Hodson, 1978); sometimes a third, "irregular" sector containing marginal legal and illegal activities is defined (see Bluestone, 1970, 25ff). There is quite general agreement that important industrial wage differences persist when the characteristics of workers are held constant. Even Cain (1976; 1246), in an otherwise hostile review, acknowledges, "more troublesome...is the persistent finding that industry characteristics have significant effects in earnings regressions that include human capital variables."

The remaining problem for segmented labour market theories of discrimination is to account for the concentration of a minority in the peripheral sector. At this point, segmented labour market theorists resort to the combination of overt discrimination, "statistical discrimination", and socialization mechanisms. This is not very satisfactory, as discrimination is again rooted in exogenous factors. An important advantage of segmentation theories, however, is that once the allocation of men and women to industries has taken place, differences in the economic conditions of firms (i.e. in the segments in which firms are located) provide an explanation of how wages are determined. Still, the question is why core employers do not hire women, at lower wages than their male counterparts, but at higher wages than prevailing for women in peripheral industries.

Related to segmented labour market theories are models of divisions <u>within</u> firms:

> The notion of an internal labour market focuses upon the division of the job structure of the enterpise into two categories of occupations. First are those job categories which are filled from sources external to the firm through the recruitment of new workers. Within clusters of related occupations, such entry jobs are generally restricted to lower-level positions. Second are those job categories which are from internal sources through the promotion and upgrading of presently employed workers. For the most part,

> access to this latter type of position occurs through advancement up well-defined promotion ladders. (Blau and Jusenius, 1976:191)

Peripheral firms, from this point of view, would be firms with little in the way of internal labour markets. The Baron and Bielby (1980) appeal for further research on the authority structures of firms raises the issue of internal labour markets in a more general context. Edwards (1975) provides an interesting historical account of the emergence of internal labour markets and Alexander (1974) provides an interesting empirical analysis for the U.S.

Finally, radical theorists (e.g. Edwards, Reich, and Gordon, 1975; Bowles and Gintis 1975, 1977; Roemer, 1978) frame their analysis of discrimination in the context of segmented labour market theory. They provide a motivation for segmentation: "the structure of wage rates is not exogeneous to the firm, but rather one of the instruments used to maximize profits" (Bowles and Gintis, 1975:76). Wages in occupations predominantly occupied by women or racial minorities are maintained at artificially low levels by preventing men from entering minority occupations, which serves to limit the pressure to increase wages in these occupations. Conversely, women might be encouraged to enter some male occupations as part of a strategy to lower wage levels in them. Employers could thus use existing occupational segregation and wage differentials to lower wage costs.

The theoretical and empirical issues raised by segmented labour market theorists are far from resolved. Whatever the present contradictions, it should be recognized that they provide the only effective way out of the dilemma posed by the failure of competitive mechanisms to remove discrimination. The monopsonist attempts to repair neo-classical theory point in the direction of segmentation, but do not succeed in providing a formulation that successfully brings features of employers into the model. Some form of segmentation is a necessary element of any successful model of wage determination. It is required both to explain persistent wage differences among industries and to establish the link between individual and employer characteristics.

III. Conclusions

There is an interesting relation between the two parts of this paper: the area where empirical knowledge is weakest is precisely the area that shows the most theoretical promise. The human capital and status attainment models, despite their important contributions to explaining men's wages, are clearly poor predictors of gender wage differentials. Yet the available data, and analysis based on it, best serve the needs of these two traditional approaches. Segmentation theories, in their various forms, require information about detailed occupational categories, job hierarchies within employer organizations, and the economic characteristics of employers in addition to measures of the education, job experience, and other characteristics of individual workers.

The critique of the methodological individualism implicit in human capital and status attainment theories, initially put forward about a decade ago in the first formulations of segmentation theory, still characterizes the bulk of Canadian research. The more or less single minded concentration on individual characteristics as predictors of income carries with it the assumption of homogeneous labour markets: employers are all placed in a single large black box which, when fed the characteristics of a worker, assigns her or him a wage rate. Of course, much of the variation in the wage values which emerges (about 70 percent) cannot be adequately attached to any of the characteristics of the workers initially fed into it. It would be foolish to expect anything approaching perfect prediction, but so long as the residual variation in

wages is random, analysis could stop with the black box. In fact, strong grounds exist to presume that some hidden features of the inside of the black box bear systematic relations to the wages which emerge. We must discover what features of employers influence the wages they pay to men and women workers and what factors govern the "choice" of employers by men and women with different combinations of education, experience, and occupational skills. Of course, not only initial jobs and wages are important. The character of promotional ladders and the characteristics of the employees who are able to ascend them are also of importance.

The distinction between traditional human capital and segmentation approaches to gender wage differentials is more than academic; it has a vital relation to policy choice. Implicitly or explicitly, human capital models have had a considerable impact on policy formation over the past two decades. They led governments to concentrate on the labour supply side. A massive expansion of the post-secondary educational system was intended to provide the basis for prosperity in the seventies and eighties. The expansion was undertaken with little explicit attention to equality of opportunity, the assumption, sometimes stated but usually assumed, being that an expanded supply of education would serve to equalize its distribution. In fact, there is no good evidence to show any resulting change in the position of women and the stability demonstrated in some recent large studies of occupational mobility suggests class differences in occupational opportunity are similarly unaffected.

Improvements in human rights legislation were a second manifestation of this individualist approach. They served to strengthen the guarantees that women would receive treatment equal to men in the same situations. If there is anything our research shows, however, it is that women and men do not generally work in the same situation -- differences in their occupations, previous experience, and education serve to remove the enormous wage difference from scrutiny by human rights legislation, as presently framed. On the one hand, this failure should not be taken as an argument against human rights legislation; in some circumstances, it provides a necessary remedy for discrimination. On the other hand, human rights legislation should not take the place of programmes that could effectively decrease wage differentials.

The policy counterparts of segmentation approaches to wages of women are social programmes that influence the hiring and promotional practices of employers. Two aspects of these practices are important: part of the gender wage differential is the result of men and women working for different sorts of employers (in different industries, in organizations of different sizes, and with different production processes, etc.); and part of the differential results from men and women in the same firm occupying different positions. The simple matter of deciding the relative impact of these two factors, which cannot be accomplished with existing data, has important policy implications. Affirmative action programmes, for example, are likely to have very different effects according to whether they focus on hiring or promotional practices and according to the employers to whom they are applied.

What would be involved in the collection of data to allow a fuller exploration of the effect of segmentation on wage differentials? At present fairly good data on individual characteristics are available from medium to large-scale surveys of individuals. Extensive data on pay rates within industries are also collected in surveys of employers. What we require are data that contain both individual and employer characteristics. These would ideally be collected in a large scale survey of individuals and of their employers. A variety of field procedures might be used, ranging from sample surveys of individuals which ask workers about their employers, to surveys that collect data on individuals then separately approach their employers for more information, to surveys which are based on a sample of firms and collect data both about the firms and about their employees -- in separate questionnaires and/or from personnel records.

A recent impressive review of American research on occupations and wages, by Baron and Bielby (1980), advances a similar argument for a new research agenda and is appropriately titled "Bringing the Firms Back In". Traditional empirical research and theory on wage differentials has reached an impsse out of which segmentation theory and the gathering of appropriate data on employers offer the most promising exit. Social policies aimed at equalizing the wages of men and women appear to have reached a (related) dead end: in the last twenty years there has been no appreciable change in the relation between women's and men's wage levels. Finding a way out of this policy impasse will be much easier with a better understanding of the factors responsible for the wage gap.

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